



mUSD-300-12
Quick Setup Guide

mUSD: Installation and Wiring

1. Connect the protective earth (PE) to the ground screw on the drive grounding lug shown in Fig. 1.



Fig. 1

2. Connect the motor power (X1 connector) according to Fig. 2.

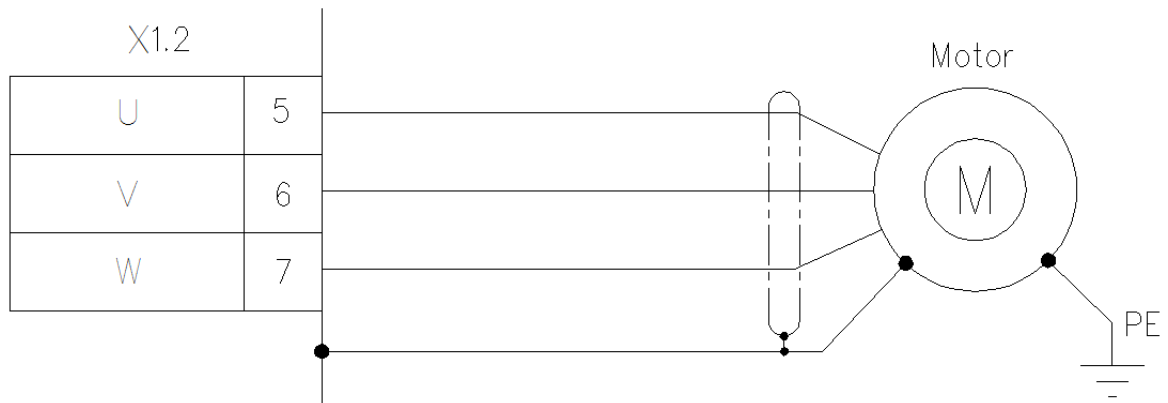


Fig. 2: Motor power wiring details.

3. Connect the AC input power as shown in Fig. 3. (Do not apply power until all hardware connections are made.)

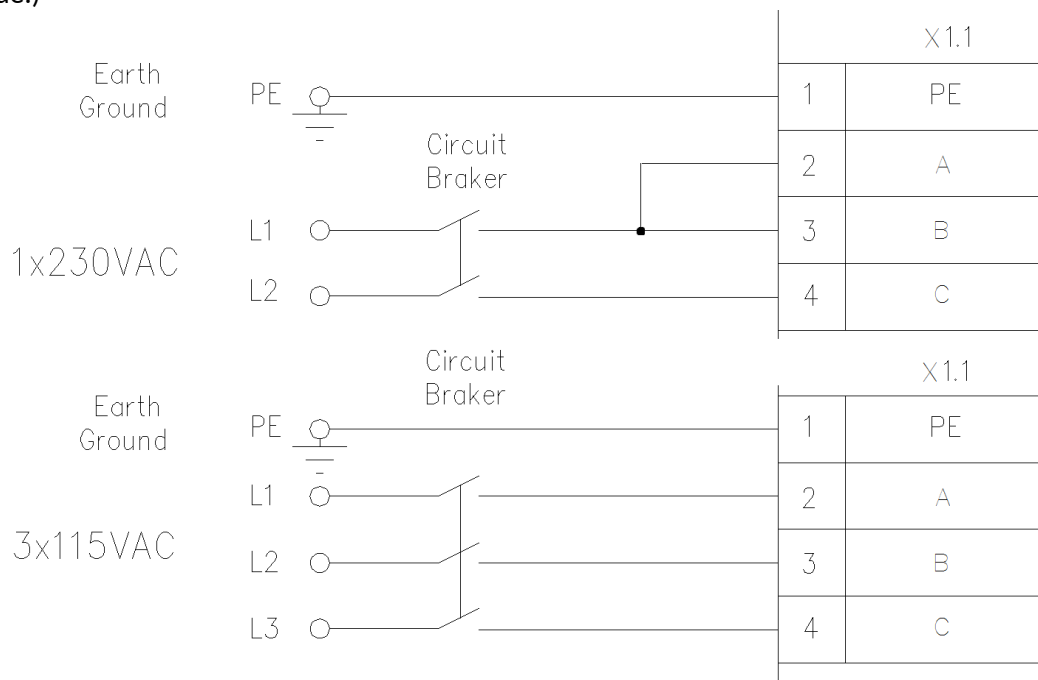


Fig. 3: Power supply wiring details.

Power connector X1:

Pin	Signal	Description
1	PE	Protective Earth
2	A	Phase 1
3	B	Phase 2
4	C	Phase 3
5	U	Motor phase 1
6	V	Motor phase 2
7	W	Motor phase 3
8	+	DC-Bus+
9	-	DC-Bus-

Note: Ensure that the motor cable length is ≤ 25m. The required wire gauge varies with drive amperage.

4. Connect Position Feedback (X4 Connector)

Connect the feedback from the motor to the X4 connector according to Fig. 4. Choose from incremental encoder, commutation encoder, Hall sensors, or resolver as motor position feedback.

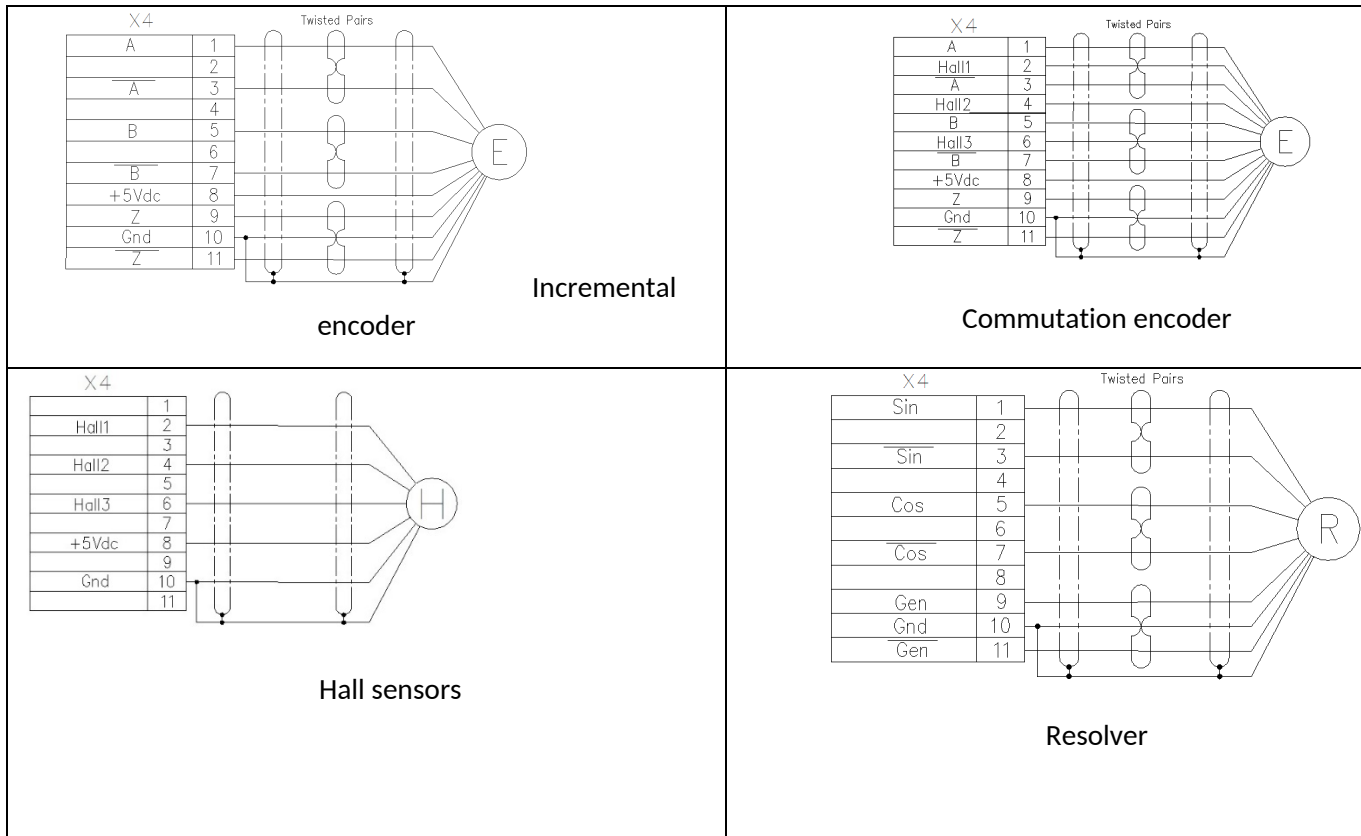
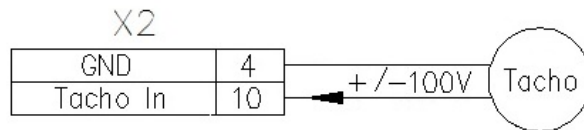


Fig. 4: Motor position feedbacks.

X4 Position feedback connector:

Pin	Signal	Encoder/Hall sensors	Resolver
1	A/Sin	+A input	+Sin
2	Hall1	Hall1 input	-
3	-A/Sin	-A input	-Sin
4	Hall2	Hall2 input	-
5	B/Cos	+B input	+Cos
6	Hall3	Hall3	-
7	-B/Cos	-B input	-Cos
8	+5Vdc	+5V power supply	-
9	Z/Gen	+Z input	+Generation
10	Gnd	Common	Common(for shield)
11	-Z/Gen	-Z input	-Generation

When using a tachometer as a speed sensor, use the X2 connector:



5. Connect I/O (X2, X3 Connectors)

Connect the I/O from the control system to the X2 and X3 connectors according to Fig. 6. DIN and DOUT pins can be configured. Analog inputs and outputs can be configured.

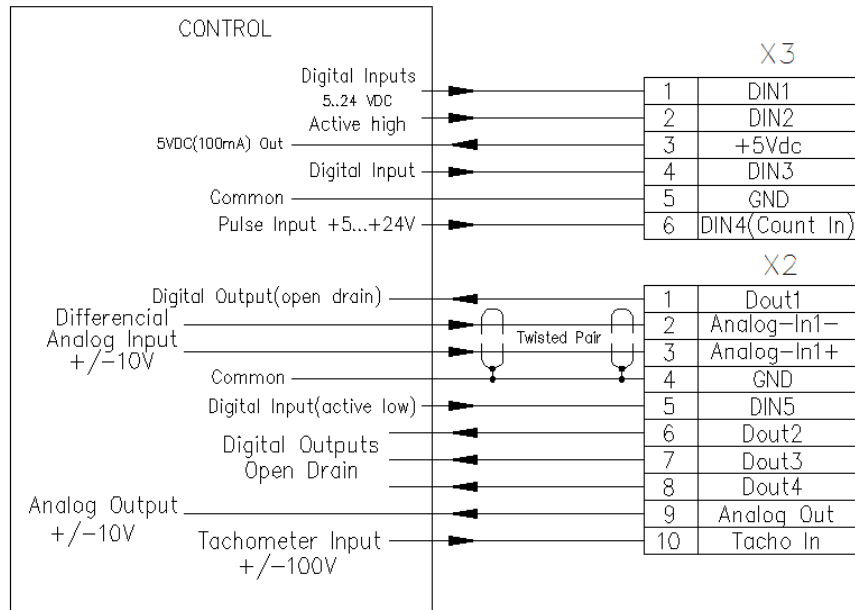
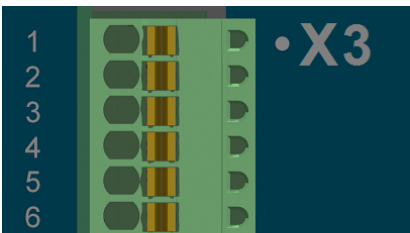
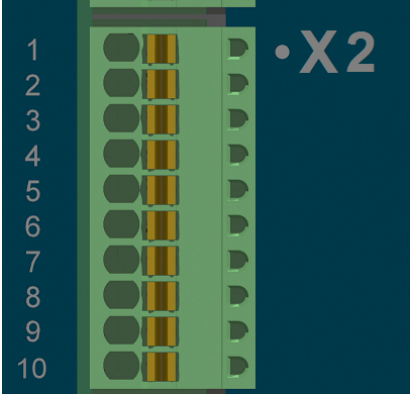


Fig. 6: I/O wirings details.

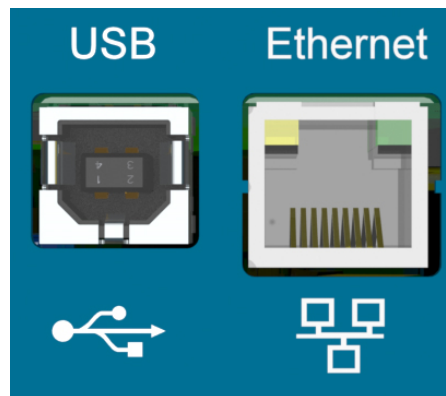
I/O connectors:

	X3	Signal	Description
	1	Din1	Digital Input 1
	2	Din2	Digital Input 2
	3	+5Vdc	+5V(50mA) Power supply
	4	Din3	Digital Input 3
	5	Gnd	Digital Ground
	6	Din4	Digital Input 4/Count Input
	X2	Signal	Description
	1	Dout1	Digital Output 1
	2	Analog-In1-	Analog difference input-
	3	Analog-In1+	Analog difference input+
	4	GND	Digital Ground
	5	Din5	Digital Input 5
	6	Dout2	Digital Output 2
7	Dout3	Digital Output 3	

	8	Dout4	Digital Output 4
	9	Analog Out	Analog Output
	10	Tacho In	Tachometer Input

Note: Use *Tacho In* as a second analog input if needed. A signal of up to $\pm 10V$ can be applied.

6. Choose communication via USB or Ethernet. The connectors are located on the top side of the drive:



To set up your mUSD with a motor, configure all parameters, and tune the servo system, refer to the Drivelink Setup Program Manual.

Drivelink Setup program features:

- **Online Mode:** Work with an mUSD via Ethernet or USB.
- **Offline Mode:** Manage saved mUSD parameters without an active connection.
- **Automated Setup:** Enables automatic configuration, tuning, and monitoring.
- **Intuitive Configuration:** Easily adjust regulator gains, DIO functionality, analog input and output scales, motion programs, homing, jogging, and more.
- **User Friendly Tools:** Provides real-time plotting utilities, motor status screen, watch window, position window, and more.
- **Seamless Integration:** Supports digital I/Os, analog inputs, and external PLCs.
- **Full Compatibility:** Works with all Mechatronics Systems servo drives, servo motors, and integrated motor-drive solutions.